



Docket No.: SON-1907/CON
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Shigeki MOTOYAMA et al.

Application No.: 10/684,460

Confirmation No.: 4695

Filed: October 15, 2003

Art Unit: 2629

For: INPUT DEVICE AND ELECTRONIC
APPARATUS HAVING THE SAME

Examiner: H. N. Tran

REPLY BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY COMMENTS

This is a Reply Brief under 37 C.F.R. §41.41 in response to the Examiner's Answer mailed on April 12, 2006.

All arguments presented within the Appeal Brief of November 2, 2005 are incorporated herein by reference. Additional arguments are provided hereinbelow.

Double patenting rejection

Within the Examiner's Answer, the rejection of claims 14-21 and 24-28 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, and 4-7, respectively, of U.S. Patent No. 6,690,362 to Motoyama et al. (Motoyama) in view of U.S. Patent No. 5,228,562 to Burk has been withdrawn (Examiner's Answer at page 2). Appreciation is expressed for this indication.

Rejections under 35 U.S.C. §103

Claim 14 includes the features of:

a sheet-type switch portion (62) having a first sheet (62A), a second sheet (62B), a first electrode (63A), and a second electrode (63B), said first and second electrodes (63A, 63B) being between said first sheet (62A) and said second sheet (62B), said first electrode (63A) being structurally adapted to come into electrical contact with said second electrode (63B); and

a reversible chromatic layer (60) having at least two coatings (60A, 60B), each of said at least two coatings (60A, 60B) being structurally adapted to exhibit thermochromism, said first sheet (62A) being between said reversible chromatic layer (60) and said first electrode (63A).

U.S. Patent No. 5,228,562 to Burk - Claim 14 provides for a reversible chromatic layer (60) having at least two coatings (60A, 60B), each of said at least two coatings (60A, 60B) being structurally adapted to exhibit thermochromism, said first sheet (62A) being between said reversible chromatic layer (60) and said first electrode (63A).

Burk arguably teaches the presence of a top membrane 12 with a lower conductive surface 16 and a bottom membrane 14 with an upper conductive surface 18 (Burk at Figure 5, Abstract).

Burk arguably teaches that the top membrane 12 is preferably constructed from a flexible, pliable dielectric material, such as a polyester plastic film, and that the bottom membrane 14 may be constructed from any dielectric material, and need not be flexible (Burk at column 5, lines 21-27).

Burk arguably teaches that the lower surface 16 of the top membrane 12 and upper surface 18 of the bottom membrane 14 are each preferably coated with a semiconductive, resistive material, such as indium tin oxide ("ITO"), and that other conductive coatings can be utilized, such as gold (Burk at column 5, lines 31-35).

Burk provides that the portions of the adhesive layers 34 and 36 directly overlying the electrodes 26a and 26b, and 30a and 30b are electrically conductive so as to permit electrical contact between the electrodes and the corresponding opposing surfaces of the top membrane 12 and the bottom membrane 14 (Burk at column 4, lines 52-57).

However, Burk teaches that the raised dielectric projections 42 of Burk further prevent the surfaces 16 and 18 of the top and bottom membranes 12 and 14, respectively, from contacting each other through the aperture 24 of the intermediate circuit spacer 20 (Burk at Figure 5, column 8, lines 47-52).

Thus, Burk fails to disclose, teach or suggest the first electrode being structurally adapted to come into electrical contact with the second electrode, as claimed.

The Examiner's Answer admits that Burk fails to teach a reversible chromatic layer with the top membrane 12 being between the reversible chromatic layer and the lower surface 16 of the top membrane 12 (Examiner's Answer at page 4).

Thus, Burk fails to disclose, teach or suggest the first sheet being between the reversible chromatic layer and the first electrode, as claimed.

WO 94/14112 to Itoh et al. (Itoh) - Note that claim 14 provides for said first sheet (62A) being between said reversible chromatic layer (60) and said first electrode (63A).

The Examiner's Answer cites Itoh for the features admittedly deficient from within Burk. The Examiner's Answer identifies the upper conductive layer 1 of Itoh as the claimed first sheet, and identifies the color-change layer 50 as the reversible chromatic layer (Examiner's Answer at page 4).

However, the Examiner's Answer fails to identify where within Itoh there is to be found the claimed first electrode. Thus, Itoh fails to disclose, teach or suggest the upper conductive layer 1 being between the color-change layer 50 and a first electrode.

Nevertheless, the Examiner's Answer contends without providing supporting evidence, that it would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the reversible chromatic layer 50 as taught by Itoh with the sheet-type switch as taught by Burk; specifically, placing the first sheet being between the reversible chromatic layer and the first electrode; because this would provide a simple and reliable input device, which is capable of temporarily and optically exhibiting a change in the color state of the position on the surface where the surface has been touched (Examiner's Answer at page 4).

In response to this contention, note that claim 14 provides for said first electrode (63A) being structurally adapted to come into electrical contact with said second electrode (63B).

Yet, Itoh fails to disclose, teach or suggest the upper conductive layer 1 of Itoh being structurally adapted to come into electrical contact with a second electrode. Instead, Itoh teaches the presence of an insulating layer 3 and a dielectric material 4 being between terminals 12,13,14,15 (Itoh at Figures 1, 2, and page 10, lines 8-11, page 11, line 22 to page 12, line 2).

While Itoh teaches the presence of an insulating layer 3 and a dielectric material 4 in order to avoid a direct electrical contact between the conductive layer 1 and the resistive layer 2 (Itoh at page 9, lines 14-22), Burk provides that the portions of the adhesive layers 34 and 36 directly overlying the electrodes 26a and 26b, and 30a and 30b are electrically conductive so as to permit electrical contact between the electrodes and the corresponding opposing surfaces of the top membrane 12 and the bottom membrane 14 (Burk at column 4, lines 52-57).

Since Itoh teaches away from Burk, as shown hereinabove, the combination of Itoh and Burk is improper. See M.P.E.P. §2145(X)(D)(2). See, for example, M.P.E.P. §2143.01, section "*The Proposed Modification Cannot Change The Principle Of Operation Of A Reference.*"

Thus, Itoh fails to disclose, teach or suggest the upper conductive layer 1 being structurally adapted to come into electrical contact with a second electrode.

As least for the reasons provided hereinabove, Burk and Itoh, either individually or as a whole, fail to disclose, teach or suggest a reversible chromatic layer having at least two

coatings, each of said at least two coatings being structurally adapted to exhibit thermochromism, said first sheet being between said reversible chromatic layer and said first electrode.

U.S. Patent No. 4,554,565 to Kito et al. (Kito) - Kito arguably teaches a support 1, a nonthermochromic image layer 2, a first reversible thermochromic image layer 3-1 and a second reversible thermochromic image layer 4-1 and 4-2 (Kito at figure 6, column 2, lines 38-44).

But like Burk and Itoh, Kito fails to disclose, teach or suggest first and second electrodes between a first sheet and a second sheet.

Also like Burk and Itoh, Kito fails to disclose, teach or suggest a first electrode structurally adapted to come into electrical contact with a second electrode.

The prior art of record, either individually or as a whole, fails to disclose, teach, or suggest all the features of the claimed invention. For at least the reasons set forth hereinabove, the rejection of the claimed invention should not be sustained.

Therefore, a reversal of the rejection of April 4, 2005 is respectfully requested.

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Dated: June 12, 2006

Respectfully submitted,

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